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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,202	11/19/2001	Tristan Barbeyron	01204DIV3	8205

7590 11/24/2003

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EXAMINER	
PATTERSON, CHARLES L JR	
ART UNIT	**PAPER NUMBER**
1652	

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,202	BARBEYRON ET AL.	
	Examiner	Art Unit	
	Charles L. Patterson, Jr.	1652	

-- The MAILING DATE of this communication appears on the cover sh t with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-17* is/are pending in the application.

4a) Of the above claim(s) *16 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *12-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/269,731.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Applicant's election with traverse of Group I, claims 12-15 limited to a protein of SEQ ID NO:6 or encoded by SEQ ID NO:5 in the paper filed 10/3/03 is acknowledged. The traversal is on the ground(s) that nowhere is the criteria of structural distinctness a basis for restriction and that it would not be a serious burden upon the office to examine all of the claims.

This is not found persuasive because MPEP 803.02 states that "[b]roadly, unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility". The instant proteins do not share a substantial structural feature as they have different primary sequences (structures) which causes different secondary and tertiary structures and it is maintained that they are thus properly restricted. As to being a serious burden, it is maintained that it fact it would be a serious burden because the two proteins are different and the protein of Groups I and II could be obtained by isolating the protein from the natural source, as discussed in the restriction requirement, rather than by the methods of Groups III and IV which involves cloning of the nucleic acid. In addition, different issues as to 35 USC 101 and 112 would have to be considered.

Finally, applicants argue that they should be able to rejoin claims after allowance of the product directed to processes of making and/or using the patentable product. This may be done if the added claims meet all the requirements of 35 USC § 101, 102, 103 and 112 and are commensurate in scope with the allowed product claims. They are warned that the prohibition against double patenting rejections of 35 USC § 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues.

The requirement is still deemed proper and is therefore made FINAL.

Claims 16-17 and claims 12-15 not limited to a protein of SEQ ID NO:6 or encoded by SEQ ID NO:5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the paper filed 10/3/03.

Claims 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is confusing in that it recites SEQ ID NOs that were not elected for prosecution.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12-15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *Cytophaga drobachiensis* having an HCA of 74.4%, does not reasonably provide enablement for any protein "having a hydrophobic cluster (HCA) score with the kappa-carrageenase of *Alteromonas carrageenovora* which is greater than or equal to 75% over the domain extending between amino acids 117 and 262 of the amino acid sequence of *Alteromonas carrageenovora* that is SEQ ID NO:6". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The specification that pertains to the instant claims teaches the cloning of two genes, one for the kappa-carrageenase of *Alteromonas carrageenovora* and the other the kappa-carrageenase of *Cytophaga drobachiensis*. When the HCA of each enzyme encoded by the genes was calculated it was found that the *Cytophaga drobachiensis* kappa-carrageenase had an HCA of 75.4% in relation to the *Alteromonas carrageenovora* enzyme over the amino acid range in the instant claims. There is no teaching of an HCA of greater than or equal to 80% or 85%, as in claims 13-14. There is no further teachings of any other glycosyl hydrolases having an HCA of 75% or greater. All of the claims depend from claim 12, which contains the instant limitation. It is maintained that the claims should be limited to the embodiments shown in the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by either of Barbeyron, et al. (U) or Potin, et al. (W). Barbeyron, et al. and Potin, et al. (W) teach the kappa-carrageenase of *Alteromonas carrageeno-*

vora, which is the protein of SEQ ID NO:6 encoded by SEQ ID NO:5. It is pointed out that Figure 1 of Barbeyron, et al. is apparently the same as SEQ ID NO:5, which shows the 3 portions the protein encoded by SEQ ID NO:5 and this protein is the same as SEQ ID NO:6. Sequencing a protein does not affect the patentability of the protein *per se*.

Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Potin, et al. (V). The instant reference teaches the kappa-carrageenase from *Cytophaga*, which apparently meets the requirements of claim 12(c) and 13-14. Sequencing a protein does not affect the patentability of the protein *per se*.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles L. Patterson, Jr., PhD, whose telephone number is 703-308-1834. The examiner can normally be reached on Monday - Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 703-308-3804. The fax phone number is 703-308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Charles L. Patterson, Jr.
Primary Examiner
Art Unit 1652

Patterson
November 19, 2003